

REMARKS/ARGUMENTS:

The disclosure has been editorially amended. Applicants have re-written the subject matters of claims 1-15 as claims 16-34 and subsequently canceled claims 1-15. New claim 35 is added. For the reasons given below, the application is considered in condition for allowance:

Claim rejections under 35 U.S.C. §112, second paragraph

Claims 4, 5 and 8 are rejected as being indefinite for reciting "in particular" and "preferably." Applicants respectfully submit that rewriting claims 4, 5, and 8 as claims 19-21, 24 and 25 overcomes the rejection.

Claim rejections under 35 U.S.C. §112, fifth paragraph

Claim 15 is rejected as using improper multiple dependent claim form. Applicants respectfully submit that rewriting claim 15 as claims 33 and 34 overcomes the rejection.

Claim rejection under 35 U.S.C. §103(a)

Claims 1-15 as originally filed can be grouped into claims 1-10 for the recombination device and claims 11-15 for the method. The claim rejection is addressed accordingly.

Recombination device claims 1-10

Claims 1-6 and 9-10 were rejected as being unpatentable over U.S. Patent No. 5,035,875 to Daish (hereinafter "Daish"). Claims 7 and 8 were rejected as being unpatentable over Daish in view of U.S. Patent No. 5,473,646 to Heck et al. (hereinafter "Heck").

Applicants respectfully submit that new claims 16-27 and 35 are patentably distinct over Daish, because, *inter alia*, Daish does not teach the retarding layer of the sub region of the

claimed invention. Neither does the reference disclose a catalyst system having first and second sub regions. Further, Daish does not provide teaching or motivation for one skilled in the art to remove the hydrophobic coating in order to provide a second region of the claimed invention.

The claimed invention as set forth in independent claim 16 comprises a housing and at least one catalyst system, having a first sub region and a second sub region. The first sub region includes a first catalyst body and a retarding layer. The second sub region includes a second catalyst body.

Daish discloses a container for a radioactive material which includes a catalyst device (col. 1, lines 4-6, 10-13). The catalyst device has a hydrophobic gas permeable coating. The purpose of the hydrophobic coating is to allow access of the reactant gases to the catalyst and prevent water from contacting the catalysts (col. 1, lines 32-35, col. 4, lines 7-10). Contrary to the Office action (page 3, lines 2-3, 14-20), the presence of the hydrophobic coating does not hinder the access of the reactant gases to the catalyst.

On the other hand, the retarding layer of the claimed invention inhibits the diffusion of the reaction gases and hinders the contact of the reaction gases to the catalyst body located within. Thus, Daish fails to teach the retarding layer and the first sub region of the claimed invention.

Furthermore, the properties of Daish's catalyst device (col. 1, line 65 to col. 2, line 7, col. 4, lines 10-12, 18-22) teach that the hydrophobic coating is important for the catalytic activity. With this importance of the hydrophobic coating in mind, the person skilled in the art would not remove the hydrophobic coating. The hydrophobic coating is permeable to the reactant gases; consequently, removal of the hydrophobic layer would only facilitate the direct access of the water to the high surface area coating. Direct water access is what Daish teaches one skilled in

the art to avoid. Therefore, Daish does not teach or provide motivation for the removal of the hydrophobic coating. Further, as admitted in the office action (page 3, lines 4-8) Daish does not teach the second sub region of the claimed invention to which the reaction gases have direct access.

Applicants further submit that Daish also fails to teach the flow direction and the positions of the first and second sub regions of the claimed invention. As aforementioned, Daish discloses a container for storing and/or transporting of radioactive materials. The reactant gases to be recombined are generated within the container (col. 1, lines 10-13). In addition, Daish's container avoids the need of flushing the gases from the container (col. 1, lines 18-23). In other words, there is no inflow or outflow of gases in Daish's container. Consequently, Daish does not teach any flow direction.

Since Daish does not teach the first and second sub regions and flow direction of the claimed invention, Daish does not teach the positions of the first sub region in front of the second sub region in the flow direction of the claimed invention.

Furthermore, Heck does not disclose the retarding layer, the first and second sub regions, and the positions of the first and second sub regions in the flow direction of the claimed invention. Therefore, Daish in view of Heck fails to render obvious the claimed invention as set forth in independent claim 16 (original claim 1) and its dependent claims 23-25 (original claims 7 and 8). Applicants respectfully submit that the rejection has been overcome.

Method claims 11-15

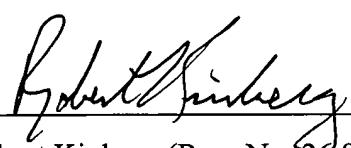
Claims 11-15 were rejected as being unpatentable over Daish. Applicants respectfully submit that new claims 28-34 are patentably distinct over Daish.

The reasons stated above are further incorporated herein. Without the teachings of the retarding layer, the first and second sub region, and the positions of the sub regions in the flow direction, the reference does not teach, *inter alia*, flowing the reactant gases through catalyst systems having first and second sub regions; inhibiting diffusion of reaction gases and limiting catalytic recombination of the reaction gases in the first sub region; and catalytically recombining the reaction gases on the directly accessible second catalyst body in the second sub region. Therefore, Daish does not render obvious the invention as set forth in independent claim 28 and its dependent claims. Applicants respectfully submit that the rejection has been overcome.

In view of the foregoing, claims 16-35 are in condition for allowance, early notice of which is requested. Should the Examiner not agree, he is requested to contact Applicants' attorney at the telephone number given below.

Respectfully submitted,

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